DOCUMENT RESUME

ED 477 786 UD 035 726

AUTHOR	Weinles, Dan
TITLE	Self-Selection and Student Achievement in Urban Schools: Examining the Role of Family Educational Involvement.
PUB DATE	2003-04-00
NOTE	47p.; Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, April 21-25, 2003).
PUB TYPE	Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE	EDRS Price MF01 Plus Postage. PC Not Available from EDRS
DESCRIPTORS	Academic Achievement; *Achievement Gains ; Elementary Secondary Education; *Family Involvement; *Parent Participation; Private Schools; Public Education; *School Choice; Selective Admission; *Urban Schools
IDENTIFIERS	*Self Selection (Reading)

ABSTRACT

Educational choice has been found to result in greater satisfaction across schools by social class, race, and prior achievement. However, few studies have attempted to examine stratification effects across choice and non-choice schools by family educational involvement (FEI). Utilizing survey data from the base year of the National Education Longitudinal Study: 1988, the present study sought to investigate first, how FEI is related to the likelihood of attending a school of choice, and second, how FEI is related to the likelihood of attending a choice school of greater admissions selectivity. Finally, the study sought to determine the degree to which school selectivity influences educational achievement, net the effects of FEI. Findings suggest that direct parental involvement in school exerts an independent positive effect on the likelihood of attending a school of choice. Only parental educational expectations, however, were independently and positively associated with attending a school of higher admissions selectivity within the choice sector. Finally, FEI was found to moderate the positive relationship between school admissions selectivity and student achievement, though the relationship remained statistically significant. (Contains 49 references.) (Author/SM)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 477 786

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY

D. Weinles

2A TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

✓ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Self-Selection and Student Achievement in Urban Schools:

Examining the Role of Family Educational Involvement

Dan Weinles
Doctoral Candidate

Temple University
Urban Education Program
College of Education
Ritter Hall
Philadelphia, PA 19122
dweinles@temple.edu

Paper presented at the Annual Meeting of the American Educational Research Association
April 21-25, 2003, Chicago, IL
Division L: Education Policy and Politics - Session #L-15,
April 24, 2003, 4:05 PM, Sheraton, Columbus A, Level 3

UD 035 726

BEST COPY AVAILABLE

Abstract

Educational choice has been found to result in greater stratification across schools by social class, race, and prior achievement. However, few studies have attempted to examine stratification effects across choice and non-choice schools by *family educational involvement* (FEI). Utilizing survey data from the base year of the National Education Longitudinal Study: 1988, the present study sought to investigate first, how FEI is related to the likelihood of attending a school of choice and second, how FEI is related to the likelihood of attending a choice school of greater admissions selectivity. Finally, the study sought to determine the degree to which school selectivity influences educational achievement, net the effects of FEI. Findings suggest that direct parental involvement in school exerts an independent positive effect on the likelihood of attending a school of choice. Only parental educational expectations, however, were independently and positively associated with attending a school of higher admissions selectivity within the choice sector. Finally, FEI was found to moderate the positive relationship between school admissions selectivity and student achievement, though the relationship remained statistically significant.

Public education is under attack in cities across the nation. At the center of the debate is the apparent failure of recurrent public school reform efforts to result in tangible improvements in student academic performance (Bradley & Manzo, 2000; Chubb & Moe, 1990). The current educational "crisis" disproportionately affects urban public school districts serving large numbers of low-income and minority students (National Center for Education Statistics [NCES], 1996; Olson & Jerald, 1998). The under-performance of inner-city public school students in the United States relative to their suburban and rural peers is well documented. In standardized tests of math and reading achievement, eighth grade students in urban public schools, on average, scored at the 38th percentile nationally, below the average scores of both suburban and rural students (NCES). Urban school systems continue to struggle with high rates of school drop-out, low standardized achievement test scores, and a greater incidence of social disorder and general resistance among students to the schooling process (Bowers, 2000; NCES; Olson & Jerald). In a world increasingly defined by technological advance and the corresponding need for an educated workforce, students in the US appear to be lagging behind their counterparts in many other modern, industrialized nations on measures of academic performance (United States Department of Education, 1998).

Despite the introduction and implementation of countless reforms in our urban public school systems, educational under-performance continues to be the norm (Chubb & Moe, 1990; Murphy, 1991; NCES, 1996). A growing body of educational reform proposals aim to transform public education through the introduction of school choice policies. Some of these proposals involve whole scale privatization of education in the US (Friedman, 1955, 1997), while others call for the introduction of school choice policies in the public sector (Hassel, 1998; Hill, 1997). Such proposals are most often based on the argument that urban public schools are failing children largely because of bloated and inefficient administrative bureaucracies, unresponsive to the needs of individual schools and the students which they serve (Chubb & Moe; Hanushek, 1997). As

such, the solution lies in creating market-based incentives to pressure schools to make improvements.

However, the evidence in support of school choice in the urban context is inconclusive. The superiority of private and public schools of choice in educating students relative to neighborhood public schools remains suspect. Researchers have most notably failed to adequately control for important family background characteristics when evaluating comparative achievement across sectors (Alexander & Pallas, 1983; McDill & McPartland, 1982). Families with different levels of involvement in their children's education may not be equally likely to choose schools when educational options become available. Any disproportionate representation within schools of choice of families who possess higher levels of educational involvement and support for their children would present clear implications for assessing achievement differences between choice and public, non-choice sectors. Differences in family level educational processes, as opposed to organizational and socio-cultural differences between choice and non-choice schools, may largely explain the oft-cited achievement advantages attributed to schools of choice in past research (see for example, Bryk, Lee, & Holland, 1993; Chubb & Moe, 1990; Coleman, Hoffer, & Kilgore, 1982).

The present study examines how family self-selection into schools of choice may confound achievement differences found between choice and non-choice schools. That is, do inner-city families who opt out of local public schools, choosing instead to attend educational alternatives, differ in their levels of educational involvement and support, both at home and in the school setting, from families who remain behind in public, non-choice schools, independent of social class and race/ethnicity? Moreover, how might such differences in family educational involvement be related to the higher levels of achievement often found in schools of choice? If families sort, or self-select, across school sectors differentially by levels and types of educational

involvement that are positively associated with student achievement, then attributions of educational benefit often conferred upon schools in the choice sector may, in large part, be a reflection of the students, and by association, the parents enrolled in such schools.

Review of the Literature

The Case for Educational Choice

School choice proponents base their arguments predominantly on rational choice theory. Hatcher (1998) effectively summarized this theory of human behavior:

> People behave according to their interests, attempting to maximize the utility of their decisions. Decisions about educational progression are made on the basis of calculations of the costs, benefits, and probabilities of success of various options. Success is defined in terms of the subsequent economic returns. (p. 9)

Under such a theory of human behavior, educational choice plans would result in rational decisions on the part of individual parents to place their children in schools that they perceived to be successful and/or of high quality. In parallel terms, school choice policies would provide the necessary incentives for schools to improve student achievement and thereby enable them to better compete for students. Those under such a system that fail to improve student achievement would be unable to attract a sufficient number of students to stay in business. Advocates of school choice additionally argue that choice policies would allow families of all racial and socio-economic backgrounds to choose desirable schools for their children (Chubb & Moe, 1990; Coleman 1992; Friedman, 1997) and that the introduction of choice policies would provide such families with the necessary incentives to become more involved in their children's education (Chubb & Moe; Coleman; Friedman). They point to the relative success of schools in the private and public choice "sectors" as an indication of the extent to which student achievement could be expected to improve under expanded educational choice policies.

Private School Effectiveness. Research on the educational effectiveness of the private sector has more often than not produced evidence that private schools, after controlling for differences in student background, yield higher levels of student achievement than do public schools (Bryk, Lee, & Holland, 1993; Chubb & Moe, 1990; Coleman, Hoffer, & Kilgore, 1982). Studies on the comparative effectiveness of private schools tend to suggest that such achievement differences are, at least in part, the result of factors internal to schools, i.e., school organizational and/or instructional characteristics (Bryk et al.; Chubb & Moe; Coleman et al.). For example, Chubb and Moe, in an analysis of *High School & Beyond* (1980) national survey data, concluded that schools in the private sector were more effective in raising student achievement, after adjusting for student background differences, because these schools, in general, operated with significantly more autonomy than did schools in the public sector. Private schools were found to be comparatively free of decision-making and regulations imposed upon them by political and administrative authorities above the school level. Chubb and Moe concluded that local, school-level autonomy was critical to the ability of schools to innovate and effectively address the needs of their unique student populations. Coleman et al. (1982), utilizing the same data set, discovered that Catholic schools were particularly effective in raising the achievement of students traditionally considered to be disadvantaged, those students of limited economic means or from racial minority backgrounds. However, rather than concluding that such educational benefits derive from increased local autonomy, Coleman and his colleagues interpreted the Catholic school effect to be the result of stronger communal environments generally present within such schools, which he later termed *social capital* (Coleman, 1988), and a more strictly regulated, core curriculum to which all students were exposed. Both students and adults in Catholic schools reported more extensive social networks and a heightened sense of community than did their public school counterparts.

Choice in the Public Sector. Studies of private school effectiveness have bolstered arguments calling for choice in education. However, additional support has come from research on the comparative effectiveness of public choice schools. Public magnet schools represent one form of public school choice that have been found to yield higher student achievement in comparison with neighborhood public schools (Blank, 1990; Blank & Archbald, 1992; Gamoran, 1996). Blank (1990), in a review of the evidence on magnet schools, found that such schools produce higher student achievement, even after controlling for differences in student background. Gamoran (1996), utilizing data from the National Education Longitudinal Study (NELS:88 base year and first follow up), found that public magnet high schools produced higher achievement for inner-city students, after controlling for differences in student background, than either private or neighborhood public schools. Other work on choice in public education has looked at inter-district transfer programs in which students are permitted to apply for admission to schools located outside of their home school districts . Armour and Peiser (1998) studied one such program in Massachusetts, finding that students who transferred to alternative schools under such a program tended to achieve at higher levels than would have been expected had they remained in their home schools. Wells and Crain (1997), in a study of an inter-district desegregation choice program in St. Louis County, Missouri, found that those inner-city African American students who transferred to suburban schools not only achieved at higher levels but went on to graduate high school and attend college in significantly higher percentages than those students who remained behind in the city school district.

The Case Against: Choice and Stratification

Critics of the research on the comparative effectiveness of choice in schooling generally point to different student intakes (or admissions) as important to understanding the achievement differential between schools of choice, both in the private and public sectors, and neighborhood

public schools (Alexander & Pallas, 1983; Astin, 1992; Martinez, Godwin, Kemerer, & Perna, 1995; McPartland & McDill, 1982; Moore & Davenport, 1990; Orfield, 1990). They contend that research on comparative school effectiveness has not sufficiently accounted for important differences in student background and prior achievement between choice and non-choice schools. As such, they argue that it is not possible to conclude with any degree of certainty that the true causes of higher achievement found in private and public schools of choice lie within the schools, themselves. Critics generally cite evidence of social stratification under conditions of educational choice (Archbald, 1996; Fiske & Ladd, 2000; Howe, Eisenhart, & Betebenner, 2001; Lauder & Hughes, 1999; Martinez et al., 1995; Moore & Davenport, 1990; Witte, 2000). Not only have educational choice policies been associated with increased student stratification across schools by social class and race/ethnicity, background measures traditionally considered in studies of comparative educational effectiveness, but there is increasing evidence that such policies may additionally stratify students by other aspects of family background associated with education and children's achievement (Furstenberg, Jr. et al., 1999; Howe et al.; Martinez et al., 1995; Wells & Crain, 1997; Witte).

Evidence of student stratification tends to support the argument that schools of choice, rather than producing higher levels of student achievement, may in fact be benefiting from qualitatively different student intakes. The research has consistently found that students higher in socio-economic status tend to achieve at higher levels than those lower in socio-economic status (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, & York, 1966; Gamoran, 1992). Similarly, certain minority groups, particularly African Americans and Hispanics, tend to score significantly lower on standardized tests than their White counterparts (Jencks & Phillips, 1998; Olson & Jerald, 1998). In past research on the achievement differential between choice (both public and private) and non-choice (generally neighborhood public) schools, social class and race

have thus been statistically held constant. Studies of this sort have also attempted to control for such measures of student background as family size, family structure, single parent families, prior achievement, etc. However, such a list of controls is, arguably, incomplete (McPartland & McDill, 1982). Studies have not adequately considered other potentially important aspects of student background that may be relevant to both student achievement and the likelihood that child will apply to and enroll in a school of choice. For this reason, it is important to consider research on the relationship between family background and student achievement.

Family Involvement and Student Achievement

Many studies have examined this relationship, and although results have varied, a number of important findings have consistently emerged from the research. Sui-Chu and Willms (1996), examining data on 8th grade students on the National Education Longitudinal Study (NELS:88), found that both parent-child discussions about school and direct parent involvement in a child's school were positively associated with student achievement. Similar results have been found for successful African American students (Yan, 1999). Singh, Bickley, Keith, Trivette, and Anderson (1995), also using NELS:88 data, found that parental aspirations for their children's educational attainment were strongly associated with higher achievement in their children.

Qualitative studies of the relationship between family practices and student achievement have yielded similar, though more detailed findings. For instance, Clark (1983), in an ethnographic study of five high achieving and five low achieving, low-income African American students, found that the family practices of high achieving students differed substantially from those of low-achieving students. Parents of high achievers tended to be more actively involved in their children's education careers, engaging them more explicitly in educational activities in the home, exhibiting higher levels of involvement in their children's schools, and reporting higher educational expectations for their children. The findings of other qualitative studies support the

existence of differences in family practices between higher and lower achieving students of similar racial and socio-economic background (Furstenberg, Jr. et al., 1999; Gutman & McLoyd, 2000).

Research on the relationship between family characteristics and student achievement suggests that the presence of certain types of family educational involvement in the home and at school is positively associated with student achievement. More importantly, the family characteristics that promote achievement in children appear to vary within race and social class. Such family practices and educational orientations have not been sufficiently considered in examining achievement differences between students in schools of choice and non-choice public schools (Martinez et al., 1995). It is therefore possible that these differences in family background, if distributed unequally between choice and non-choice schools, may account for differences in student achievement between sectors.

Family Involvement and School Choice

Some studies have examined how choosing families and students differ from their non-choosing counterparts under conditions of educational choice. These studies indicate that families who choose to leave their local neighborhood schools and attend schools of choice differ in significant ways from families that do not. Martinez et al. (1995), in a study of choice in San Antonio, Texas, found that parents who chose, either into private or public magnet schools, tended to have higher educational aspirations for their children and higher levels of involvement in their children's schools. Furstenberg, Jr. et al. (1999), in a study of inner-city students and their families, found that families that most often utilized private schools as an educational strategy also tended to be high in characteristics found by the researchers to be associated with student achievement. That is, choosing parents, on average, expressed high levels of support for their children's autonomy, had more effective disciplinary practices, reported more positive family climates, and possessed stronger community and institutional connections. Finally, Wells & Crain

(1997), in their study of an inter-district desegregation transfer program, found that the parents of African American students who chose to transfer out of their inner-city schools to suburban schools differed substantially from the parents of non-choosing African American students. Choosing parents were more directly involved in making educational decisions for their children, more goal-oriented, and more optimistic than parents of students who remained behind in inner-city public schools.

The entirety of evidence, to the present, indicates that under conditions of educational choice, the families of students who choose tend to be different from the families that do not. This suggests that not only does the provision of educational choice produce student stratification by race and social class, but perhaps more importantly, it may result in stratification by family practices and orientations positively associated with student achievement. Such differences in the family backgrounds of students may account for a substantially larger portion of the achievement gap between students in choice and non-choice schools than found in previous research.

The Study

The purpose of this study was to determine whether and to what degree families with higher levels of educational involvement disproportionately self-select into schools of choice within the urban context. Specifically, it sought to assess the effects of family educational involvement (FEI) on the likelihood that 8th grade students were enrolled in schools of choice (schools other than their neighborhood public schools), as well as their likelihood of attending schools of higher admissions selectivity within the choice sector (schools with more admissions procedures and requirements and lower student acceptance rates). Additionally, the study sought to investigate the relationship between FEI, net school admissions selectivity and non-FEI student background characteristics, on 8th grade student achievement. Though research indicates that parents' educational involvement generally decreases as students move into their adolescent years

(Eccles & Harold, 1993; Jackson & Davis, 2000), these lower levels of educational involvement should still be sufficient to examine any differences that exist between the families of 8th grade students. As such, the following three hypotheses were posited for analysis:

Hypothesis 1: Family educational involvement (FEI) is positively and significantly related to the likelihood that a student will attend a school of choice, net the effects of student background.

Hypothesis 2: Among students attending schools in the choice "sector," FEI is positively and significantly related to the likelihood that a student will attend a school of higher admissions selectivity, net the effects of student background.

Hypothesis 3: FEI is positively and significantly related to student achievement, net the effects of school admissions selectivity and student background.

Methods

Data

The data utilized in this study were drawn from the parent, student, and school surveys of the National Education Longitudinal Study of 1988 (NELS:88). This data set comprises survey data and standardized test data from a nationally representative sample of 24,599 eighth grade students within 1,035 schools. The NELS:88 employed a two-way stratified probability sampling design in which first schools were sampled and then students were sampled within each school, on average, 24 students per school (NCES, 1989). Each school (administrator) completed the school survey, which asked a wide-ranging number of questions regarding school practices, policies, and climate issues. Students completed surveys and standardized tests in various subject areas. Additionally, parents of these students completed questionnaires regarding family background, home practices, educational involvement, and home environment. Finally, two teachers for each student completed surveys regarding classroom practices, student characteristics, and school characteristics. Response rates on the four survey components ranged from 86% (parent survey) to 98% (school survey).

For the present study, an urban sub-sample of the NELS:88 was selected for study (N=7,620) since educational choice is an issue that is most often applied to the urban context. Many studies have utilized data from the NELS base year (1988) and follow-up surveys to examine the effects of family educational involvement on student achievement. Although findings of these studies have varied to some degree, a number of significant and positive relationships have been found, among them that parent-child home discussions about school (Sui-Chu & Willms, 1996), home educational resources (Teachman, 1987), direct parental involvement in school (Desimone, 1993; Sui-Chu & Willms), and parental educational aspirations for their children (Fejgin, 1995; Singh, Bickley, Keith, Keith, Trivette, & Anderson, 1995) are positively associated with student achievement. However, few if any studies have attempted to examine how such family influences are implicated in school choice within the urban context. That is, how do differences in family educational involvement affect the likelihood that a student has opted out of the local public schools and attends a school of choice, whether within the private or public sector. Moreover, for students enrolled in the choice sector, how is family educational involvement related to the likelihood that a student attends a school with higher admissions selectivity? While the NELS:88 does not provide direct information about parents' decisions to enroll their children in schools of choice, it does provide data on school admissions policies. Schools reported whether or not they utilized formal admissions procedures and the number of student applicants and student admissions they had in the previous year. Parents and students were asked a fairly wide array of questions regarding home resources, family practices, and attitudes related to education.

Measures

Family Educational Involvement (FEI) Variables. The NELS:88 provides data on a number of family characteristics found to be relevant to educational outcomes in previous research. The first set of questions utilized in the present study gauged the amount of educational

resources available to students in the home. Students were asked whether they possessed certain reading materials (newspapers, magazines, etc.) and educationally supportive tools (typewriters, calculators, etc.) in the home, as well as whether they had access to their own study space. Ten of these questions formed the basis for the creation of an index of home resources (Cronbach's alpha = .53). The remaining FEI variables were derived from the parent survey. They include three indexes created from individual questions asked of parents on the survey. (1) an index measuring the number of TV rules in the home (Cronbach's alpha = .77), (2) an index measuring the extent of parent-child discussions about school (Cronbach's alpha = .67), and (3) an index which measures direct parent involvement in the child's school (Cronbach's alpha = .72). Additionally, the study utilizes individual parent survey questions. These include (1) whether or not parents imposed rules about maintaining a certain grade point average, (2) the frequency with which parents reported helping their children with homework, and (3) the level of the parent's educational expectations (see Appendix 1 for a breakdown of all NELS:88 variables utilized in this study and Appendix 2 for all constructed indices).

School Choice and Admissions Selectivity. Students were designated as attending schools of choice if their schools were either in the private sector or were public schools with formal admission policies. Those schools that reported formal admissions policies were asked the number of student applications they received and the number of students they admitted in the previous year. These two questions were utilized to create a limited measure of the school's acceptance rate. Formal admissions schools were additionally asked to specify the types of practices they regularly utilized to admit students (for example, standardized test scores, formal interviews with parents, recommendations, etc.). Responses to these questions formed the basis for the creation of an index of school selectivity. The index was dichotomized into moderately-highly selective schools and somewhat-minimally selective schools. Because approximately 5%

of private school students (1.5% of the total urban student sample) attended schools reporting no formal admissions practices (though such schools clearly did not admit students based on residential feeder areas as do neighborhood public schools), these schools were included in the index as minimally selective. Finally, an expanded, five-point index of admissions selectivity was constructed that includes all schools reporting no formal admissions practices in the "0" category.

Achievement. Approximately 90% of the students surveyed on the NELS:88 completed standardized tests. In the present analysis, student achievement was operationalized as students' composite standardized test scores. This composite represents the average of students' reading and math scores and is provided as part of the NELS:88 data set.

Student Background. A number of control variables were employed in the analysis. Research indicates that prior student achievement is a strong predictor of future achievement (Coleman et al., 1982). Much of the research on educational choice similarly indicates that students who enroll in schools of choice tend to have higher levels of prior achievement than those who do not (Blank, 1990; Moore & Davenport, 1990;). Unfortunately, the NELS:88 data set does not provide information on prior student achievement. In lieu of this information, two crude measures of prior schooling outcomes were used in this study: 1) parents' reports of whether their child had been held back in a previous grade and 2) parents' reports of whether their child had a history of behavior problems in school.

Additional controls on student background were employed. Studies have consistently found that race/ethnicity and socio-economic background, especially parental educational levels, are important predictors of achievement (Coleman et al., 1966; see also Gamoran, 1992). Students who come from families of higher income, higher parent education levels, and who are White tend to achieve at higher levels than those whose family incomes and parent education levels are lower

and those of racial minority status (Gamoran).[1] The literature on school choice similarly indicates that student background is important in predicting which students will enroll in schools of choice and which will remain behind in under-performing neighborhood public schools. Many studies have found that schools of choice within the urban context tend to serve disproportionate numbers of White and middle class students (Blank & Archbald, 1992; Good & Braden, 2000; Smrekar & Goldring, 1999).

The present study, therefore, sought to control for students' racial background, family income, family size, and parent education levels. Race was determined based upon a composite variable, provided as part of the NELS:88 data set, constructed from both parent and student responses. It is composed of five categories: White, African American, Hispanic, Asian/Pacific Islander, and American Indian. All other measures of socio-economic background (income, family size, and parent education) were obtained from parents' survey responses. It is important to note that since the NELS:88 parent survey only requested the income category of the family (i.e., $5,000 - $7,500), precise information on the amount of income coming into students' homes is unavailable. This variable may also be problematic because it exhibited a fairly large number of parent non-responses (approximately 15% of parents in the urban sub-sample did not respond on this question). Family size, the total number of people living in the student's home, was included among the control variables as an adjustment of sorts to the measure of family income because income, by itself, may be misleading if the number of family members among whom the income must be distributed varies significantly. Finally, parents' self-reported education levels were utilized to control for the oft-found effect of parental education on both school choice and student achievement.

[1] The exception to this finding is that Asian students tend to score at levels commensurate with White students after controlling for differences in family background (see Fejgin, 1995).

Procedure

Data were analyzed using logistic and ordinary least squares regression in the SPSS statistical software program. The NELS:88 did not utilize a simple random sampling design; rather, it employed a two-way stratified probability sampling design, first selecting schools, then students within the schools. Additionally, private schools and Hispanic and Asian students were over-sampled. Therefore, base year student level weights (provided as part of the NELS:88 data set) were included in all analyses. This weighting procedure results in each student being multiplied by the inverse of his/her likelihood of being randomly sampled in the overall population. However, in statistical analyses, SPSS misinterprets these weights as signifying a substantially larger sample size. In order to account for this misinterpretation, the present analysis utilized unweighted standard errors. Additionally, although students were randomly sampled within schools, they cannot be considered independent of one another since students within a school share the same learning environment. This clustering within schools produces design effects that may falsely reduce the variation, increasing the likelihood of obtaining statistical significance (NCES, 1989). As such, to adjust for design effects, unweighted standard errors were multiplied by the root mean design effect for all students (1.56) to estimate statistical significance for coefficients in regression models (NCES, 1989, pp. 33-34). This procedure generally results in excessively large standard errors, especially in multiple regression analysis, and therefore produces extremely conservative estimates of statistical significance. This increases the probability that some variables will be incorrectly categorized as statistically insignificant. Alternatively, it ensures that a high level of confidence can be placed in any variables that are found to be statistically significant.

The first of three analyses employed logistic regression to examine the effects of family educational involvement on the likelihood that a student would be enrolled in a school of choice

(an alternative to the local neighborhood public school). Logistic regression is designed to examine the effects of multiple independent variables on a dichotomous dependent variable Bohrnstedt & Knoke, 1994). Such a technique essentially enables the researcher to examine the effect a set of variables on the likelihood of falling into one of two possible categories on the dependent variable (Walsh, 1987). Dichotomous dependent variables present problems for OLS regression techniques because data are not normally distributed and regression coefficients may fall outside the range of meaning (0 to 1). In this analysis, attendance in a choice school (all private schools and formal admissions public schools) was coded "1" and attendance of a neighborhood public school was coded "0." The second analysis similarly utilizes logistic regression to examine the effects of family educational involvement, among students attending choice schools only, on the likelihood that a student would be enrolled in a school of moderate-to-high admissions selectivity (coded "1") as opposed to a minimally-to-somewhat selective school (coded "0"). The final analysis employs ordinary least squares regression to analyze the effects of both school admissions selectivity and family educational involvement on student achievement.

Results

Table 1 presents the weighted means and standard deviations, as well as the unweighted sample sizes for all variables included in the analysis. This information is additionally broken down by school sector (choice vs. non-choice) and t-ratios are displayed. As can be seen, 32% of all urban 8th grade students attend schools of choice, whether private or public. That is, only 68% attend their neighborhood, public schools. Among students enrolled in the choice sector, 49% were categorized as being enrolled in schools of moderate-to-high admissions selectivity (schools with more admissions procedures and requirements, as well as a lower

Table 1. Weighted Means, Standard Deviations (in parenthesis), and t-ratios for All Variables in the Analysis, by Choice and Non-Choice School Sector

Variables	All Urban Students	In Non-Choice Schools	In Choice Schools	t (two-tailed)	N[a]
Dependent Variables					
School Choice	.32 (.47)	-----	-----	-----	7503
School Selectivity Index (Dichot. high=1 - choice schools only)	-----	-----	.49 (.50)		2852
Composite Stand. Test	48.58 (10.09)	47.09 (9.73)	51.88 (10.09)	-12.85***	7312
Independent Variables					
School Selectivity Index (5 pt. Index - non-choice schools = 0)	.70 (1.26)	-----	-----	-----	7173
Family Educational Involvement					
Home Resource Index (0-10)	7.14 (1.94)	6.90 (2.00)	7.66 (1.71)	-10.57***	6981
TV Rules Index (0-2)	1.12 (.88)	1.08 (.88)	1.18 (.86)	-2.82**	6510
GPA Rules (0=no, 1=yes)	.74 (.44)	.76 (.43)	.70 (.46)	3.59***	6578
Homework Help Freq. (0-3)	1.26 (1.04)	1.24 (1.04)	1.31 (1.02)	-1.70	6613
Home Ed. Discuss. Index (0-3)	1.71 (1.10)	1.66 (1.12)	1.82 (1.04)	-3.81***	6640
Parent Ed. Expectations (0-3)	1.71 (.96)	1.61 (.97)	1.91 (.90)	-8.30***	6810
School Involv. Index (0-4)	1.30 (1.38)	1.02 (1.21)	1.90 (1.51)	-16.54***	6374
Prior Student Characteristics					
Held Back in Grade (1=yes)	.23 (.42)	.26 (.44)	.16 (.36)	6.72***	6678
Behavior Problems (1=yes)	.13 (.37)	.15 (.36)	.09 (.28)	4.98***	6830
Race/Ethnicity[b]					
White (Caucasian)	.49 (.50)	.44 (.50)	.63 (.48)	-11.23***	7620
African American	.26 (.44)	.30 (.46)	.17 (.38)	9.17***	7620
Hispanic	.17 (.37)	.18 (.39)	.12 (.33)	4.47***	7620
Asian/Pacific Islander	.05 (.21)	.04 (.20)	.06 (.23)	-1.22	7620
American Indian	.01 (.12)	.02 (.13)	.01 (.11)	1.19	7620
Socio-Economic Background					
Family Income (1-15)	9.15 (2.82)	8.75 (2.81)	10.07 (2.63)	-11.90***	6509
Family Size	4.70 (1.56)	4.75 (1.61)	4.61 (1.44)	2.59**	7499
Parental Education Level	1.99 (1.25)	1.80 (1.16)	2.43 (1.31)	-13.34***	7494

Source: NELS Base Year Survey: 1988

*p < .05 **p < .01 ***p<.001 (two-tailed tests)

[a]Sample size (N) refers to the overall sample of urban students (column 1). Sample sizes for t-tests may be slightly smaller due to missing cases.

[b]Ratios for *Race/Ethnicity* categories may not add to 1.00 due to rounding.

acceptance rate in the previous year).[2] As can be seen, choice students exhibit significantly higher levels of achievement and family educational involvement than students in non-choice schools. Students in schools of choice possess more educational resources in the home, their parents set more rules in the home regarding TV viewing, they receive more parental help with their homework, and they engage in more discussions with parents about school. They also have parents who report higher educational expectations and who have more direct involvement in their schools. Choice students are less likely to have been held back in a previous grade or to have had behavioral problems in school. African American and Hispanic students are significantly under-represented in the choice sector, while White students are over-represented. Finally, Table 1 indicates that students who attend schools of choice tend to have higher family incomes, lower numbers of family members living in the home, and parents with higher levels of education.

Table 2 displays the bivariate relationships for all variables included in the analysis (the school selectivity index presented in this matrix is the expanded five-point index that includes all public and private non-formal admissions schools in the "0" category). All FEI variables with the exception of Grade Point Average (GPA) Rules are, as predicted, positively associated with both the likelihood of attending a school of choice and with attendance in a school of higher admissions selectivity. Of the seven FEI measures, direct parent involvement in school (as measured by the school involvement index) exhibits the strongest positive association with the likelihood of attending a school of choice as well as a school of higher admissions selectivity. The presence of rules in the home regarding students' grade point average remains negatively, though weakly,

[2] Information on the percentage of students enrolled in choice versus non-choice schools in the public sector and the percentage of students enrolled in different types of private schools is not included in Table 1. However, most students who attended urban schools of choice were enrolled in private schools (nearly 72%). Within the private sector, approximately 64% of students were enrolled in Catholic schools, 22% in other religious schools, and 14% in secular schools. Just under 12% of all urban public school students were enrolled in public schools of choice (though public choice students represented 28% of students within the "choice sector", public and private combined).

Table 2. Bivariate Correlation Coefficients Variables of Interest in the Urban Sub-Sample[a]

	Study Variables																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1a. School Selectivity Index (all)[b]	----		.222*	.196*	.061*	-.066*	.031	.085*	.171*	.293*	-.113*	-.084*	-.083	-.084*	.027	-.018	.219*	-.059*	.255*
1b. School Selectivity Index (choice)[c]	----		.052*	.110*	.035*	.006	.035	.089*	.173*	.075*	-.007	-.044	.138*	-.011	.004	-.019	.129*	-.103*	.148*
2. School Choice	----	----	.222*	.183*	.052*	-.067*	.031	.069*	.146*	.299*	-.117*	-.085*	-.141*	-.079*	.026	-.018	.217*	-.044*	.236*
3. Composite Stand. Test	----	----	----	.322*	-.081*	-.122*	-.105*	.025	.407*	.187*	-.349*	-.167*	-.287*	-.164*	.058*	-.059*	.410*	-.113*	.432*
4. Home Resource Index	----	----	----	----	.059*	-.024	.072*	.090*	.246*	.255*	-.130*	-.076*	-.161*	-.192*	.021	-.016	.437*	-.069*	.406*
5. TV Rules Index	----	----	----	----	----	.190*	.177*	.209*	.070*	.136*	.045*	.006	.114*	.006	.011	-.001	-.006	.040*	.050*
6. GPA Rules	----	----	----	----	----	----	.085*	.153*	.001	.002	.021	.012	.106*	.052*	-.009	-.034	-.058*	-.013	.077*
7. Homework Help	----	----	----	----	----	----	----	.268*	.032*	.147*	.035*	-.014	.083*	-.100*	-.043*	-.025	.076*	-.033*	.126*
8. Home Ed. Discuss. Index	----	----	----	----	----	----	----	----	.205*	.159*	-.002	-.047*	.096*	-.010	-.069*	-.027	.092*	-.066*	.119*
9. Parent Educ. Expectations	----	----	----	----	----	----	----	----	----	.217*	-.256*	-.154*	-.026	-.055*	-.091*	-.016	.268*	-.095*	.397*
10. School Involvement Index	----	----	----	----	----	----	----	----	----	----	-.116*	-.114*	-.050*	-.112*	-.034*	-.003	.294*	.005	.289*
11. Held Back in Grade	----	----	----	----	----	----	----	----	----	----	----	.199*	.135*	.041*	-.057*	-.001	.197*	.039*	.208*
12. Prior Behavior Problems	----	----	----	----	----	----	----	----	----	----	----	----	.067*	.023	-.042*	.004	-.117*	.006	.089*
13. African American	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-.302*	.006	-.140*
14. Hispanic	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-.170*	.128*	-.234*
15. Asian/Pacific Islander	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	.022	.058*	.062*
16. American Indian	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-.052*	.076*	-.035*
17. Family Income	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-.055*	.534*
18. Family Size	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-.108*
19. Parent Educ. Level	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Source: NELS Base Year Survey, 1988 * $p<.05$

[a] Weighted coefficients.

[b] Five point scale of admissions selectivity that includes public non-choice schools in the lowest (0) category.

[c] Dichotomized selectivity index which includes choice sector schools only.

associated with attendance in a school within the choice sector. This may, in part, be related to the students' prior achievement, which was not available on the NELS:88 data set. Logically, parents of students who have a history of poor achievement in school may be more likely to implement rules in the home regarding future academic performance. The relationship between GPA rules and achievement (composite test score) suggests that this may be the case. Test scores are negatively associated with the presence of GPA rules in the home. Moreover, an unexpected negative relationship with achievement is also evident for two other FEI measures—TV rules and frequency of homework help—again suggesting the possible influence of prior student achievement on parental practices in the home. Furthermore, these negative relationships suggest that not all measures of family educational involvement included in the analysis are similarly associated with both the likelihood of choice school enrollment and student achievement.

FEI and School Choice. The results of the first logistic regression, which investigates the relationship between family educational involvement and the likelihood of attending a school of choice, are presented in Table 3. Three regression models were constructed. The first displays the raw effects of FEI on school choice with no controls for student background. The second model presents the relationship between FEI and school choice controlling only for parent education level. The purpose of this model was to determine the unique effect of parent educational level on family educational involvement since previous research has identified parent educational level as a factor in home educational practices (Furstenberg et al., 1999; Martinez et al., 1995; Wells & Crain, 1997). Finally, Model 3 presents the independent effects of FEI measures on school choice controlling for student background variables. The results of this regression provide partial support for hypothesis #1. Model 3 indicates that after controlling for all background variables, only three FEI measures are significantly associated with the likelihood of attending a school of choice, and

Table 3. Log Odds Ratios from the Logistic Regression of School Choice (choice=1) on Family Educational Investment, Prior Student Characteristics, Race, and Socio-Economic Background (Standard Errors in Parenthesis)

Independent Variable	Model 1	Model 2	Model 3
Family Educational Investment			
Home Resource Index	.092**	.054	.010
	(.028)	(.030)	(.031)
TV Rules Index	.066	.066	.122*
	(.058)	(.058)	(.059)
GPA Rules	-.411***	-.360**	-.312**
	(.109)	(.111)	(.114)
Homework Help	-.048	-.067	-.053
	(.050)	(.051)	(.051)
Home Educ. Discuss Index	.041	.040	.061
	(.048)	(.048)	(.050)
Parent Educ. Expectations	.165**	.086	.071
	(.055)	(.059)	(.064)
School Involvement Index	.411***	.392***	.377***
	(.036)	(.036)	(.037)
Prior Student Characteristics			
Heldback in Grade	-----	-----	-.259
			(.140)
Behavior Problems	-----	-----	-.230
			(.172)
Race/Ethnicity			
African American	-----	-----	-.656***
			(.154)
Hispanic	-----	-----	-.188
			(.153)
Asian/Pacific Islander	-----	-----	-.012
			(.193)
American Indian	-----	-----	-.536
			(.565)
Socio-Economic Background			
Family Income	-----	-----	.044
			(.025)
Family Size	-----	-----	-.031
			(.037)
Parent Education Level	-----	.202***	.115*
		(.045)	(.051)
Intercept	-2.061***	-2.064***	-1.691***
Nagelkerke R^2	.144	.155	.179
Model Chi-Square °	988.051	1124.849	1327.575
Degrees of Freedom	7	8	16
Predicted Correctly	72.9%		

Source: NELS Base Year Survey: 1988 N = 5248, Missing Cases = 2372

*p < .05 **p < .01 ***p < .001 (two-tailed tests)

° Model Chi-Squares determined based on unweighted analysis.

only two of these are positively associated, as predicted. The strongest FEI predictor of choice school enrollment is direct parental involvement in the school. According to Model 3, after controlling for all other FEI and background variables, for each unit of increase in direct parent involvement in school (school involvement index ranges from 0 to 4), a student's odds of attending a school of choice increase by approximately 46% ($e^{.377}$). The presence of TV rules also becomes significant and positively associated with choice school attendance after controlling on all other variables in the model such that students whose parents impose a high level of rules governing TV viewing (TV Rules Index = 2) are roughly 28% more likely to attend schools of choice ($e^{.122 \times [2-0]}$) than students whose parents impose no rules about TV viewing. The presence of GPA rules in the home retains its significant negative relationship with the likelihood of choice school enrollment. All other FEI measures in Model 3 prove to be statistically non-significant.

Of note, Model 1 suggests that parental educational expectations are significantly and positively associated with the likelihood of attending a choice school. However, the introduction of parent education level in Model 2 reduces this relationship to non-significance. The inclusion of all other background variables into Model 3 further reduces the relationship, but only minimally. This reconfirms the strong positive relationship, as shown in the bivariate analysis, between parents' educational levels and parental aspirations for their children's educational attainment. Model 3 indicates that parent educational level remains a significant positive predictor of choice school attendance, providing support for previous research findings of student stratification by parent educational levels under conditions of educational choice (Howe et al., 2001; Martinez et al., 1995; Witte, 2000). Interestingly enough, family income appears to be unrelated to the likelihood of choice school attendance after controlling for all other variables in the model. This is surprising given the fact that the majority of schools of choice lie in the private sector and therefore are almost certain to charge tuition. Finally, Model 3 provides evidence that

within the urban context African American students are significantly less likely to attend schools of choice than are Whites.

FEI and Attendance of Selective Schools within the Choice Sector. Table 4 presents the results from the logistic regression of school admissions selectivity (within the choice "sector" only) on family educational involvement. This analysis sought to determine the effects of FEI on the likelihood that a student, already within the choice sector, would attend a school of moderate-to-high admissions selectivity (compared with choice schools that are only somewhat-to-minimally selective in their admissions practices). The results provide only partial support for hypothesis #2, indicating that, among all seven FEI measures, only parental educational expectations are significantly associated with the likelihood of attending a school of moderate-to-high admissions selectivity. Models 2 and 3 suggest that the inclusion of parent educational level and other student background measures diminishes this relationship to some extent, but the relationship remains statistically significant. Model 3 indicates that students, already within the choice sector, whose parents expect their children to attain a post-graduate college education (Parental Educational Expectations = 3) are nearly twice as likely ($e^{.225 \times [3-0]}$) to attend schools of moderate-to-high admissions selectivity as are students whose parents expect their children to attain only a high school diploma or less (Parental Educational Expectations = 0). No other FEI measures proved to be statistically significant in predicting the likelihood of enrollment in moderate-to-highly selective schools within the choice sector.

Interestingly enough, Model 3 indicates that among students already in the choice sector, African Americans are more than three times as likely as Whites to be attending schools of moderate-to-high admissions selectivity. This finding is important in light of the previous finding that African American students are significantly less likely to be enrolled in schools of choice. Apparently, those African Americans who do "opt out" of their neighborhood public schools tend

Table 4. Log Odds Ratios from the Logistic Regression of Formal Admission School Selectivity (High Selectivity = 1) on Family Educational Investment, Prior Student Characteristics, Race, and Socio-Economic Background (Standard Errors in Parenthesis)

Independent Variable	Model 1	Model 2	Model 3
Family Educational Investment			
Home Resource Index	.071	.039	057
	(.048)	(.051)	(.056)
TV Rules Index	.006	.030	.017
	(.089)	(.092)	(.094)
GPA Rules	-.025	.021	-.064
	(.164)	(.168)	(.172)
Homework Help	.046	.045	.018
	(.078)	(.080)	(.083)
Home Educ. Discuss Index	.062	.063	-.010
	(.078)	(.080)	(.083)
Parent Educ. Expectations	.331***	.262**	.225*
	(.095)	(.101)	(.108)
School Involvement Index	.022	.014	.059
	(.075)	(.053)	(.056)
Prior Student Characteristics			
Heldback in Grade	-----	-----	.307
			(.257)
Behavior Problems	-----	-----	-.232
			(.312)
Race/Ethnicity			
African American	-----	-----	1.245***
			(.301)
Hispanic	-----	-----	.509
			(.275)
Asian/Pacific Islander	-----	-----	.301
			(.345)
American Indian	-----	-----	-.499
			(1.181)
Socio-Economic Background			
Family Income	-----	-----	.089*
			(.042)
Family Size	-----	-----	-.181**
			(.064)
Parent Education Level	-----	.140	.122
		(.072)	(.081)
Intercept	-1.448***	-1.433***	-1.643***
Nagelkerke R^2	046	053	.117
Model Chi-Square [a]	217.078	295.447	400.011
Degrees of Freedom	7	8	16
Predicted Correctly	62.9%		

Source: NELS Base Year Survey: 1988 N = 2027, Missing Cases = 1155

*p < .05 **p < .01 ***p < .001 (two-tailed tests)

[a] Model Chi-Squares determined based on unweighted analysis

enroll disproportionately in more highly selective schools of choice. Finally, within the choice sector, family income, as well as family size, appear to impact significantly on the likelihood of attending a choice school of higher admissions selectivity. Students with higher family incomes and lower family sizes appear to be more likely to attend schools of higher admissions selectivity.

FEI, Admissions Selectivity, and Achievement. A final set of OLS regression models was constructed to test hypothesis #3. Most of the literature on family educational involvement looks at student achievement as the primary outcome. However, studies of the comparative effectiveness of private and public choice schools have not sufficiently considered family educational involvement as a factor contributing to achievement differences found between sectors (Alexander & Pallas, 1993; McPartland & McDill, 1982). Specifically, these studies have not adequately addressed the possible role of choice school admissions policies in attracting and admitting students from more educationally supportive home environments. The final set of analyses utilizes OLS regression to determine whether the admissions selectivity of the school has any significant effects on student achievement net differences in student background.[3] This five-point school selectivity index includes all non-formal admissions schools (public and private) in the lowest "0" category. All schools reporting formal admissions practices were categorized from 1 to 4 depending on their student acceptance rates and the number of admissions practices they reported.

The results from the OLS regression of student achievement on school selectivity and family educational involvement are found in Table 5. Model 1 examines the effect of school admissions selectivity on student achievement independent of student background variables. This

[3] An analysis was also performed to determine whether mere attendance at a school of choice had any independent effects on student achievement. However, the results of this analysis closely mirrored those reported above. It appeared that the school selectivity index captured most of what the school choice variable was measuring, and therefore, this regression analysis was excluded from this study.

Table 5. Standardized Coefficients from the OLS Regression of Composite Achievement on School Admissions Selectivity, Family Educational Investment, Prior Student Characteristics, Race, and Socio-Economic Background (Standard Errors in Parenthesis)

Independent Variable	Model 1		Model 2	
	b	β	b	β
School Selectivity Index	.439**	.056	.304*	.039
	(.138)		(.136)	
Family Educational Investment				
Home Resource Index	-----		.393***	.074
			(.109)	
TV Rules Index	-----		-.511*	-.044
			(.211)	
GPA Rules	-----		-1.270**	-.055
			(.406)	
Homework Help	-----		-1.213***	-.122
			(.183)	
Home Educ. Discuss Index	-----		-.172	-.019
			(.175)	
Parent Educ. Expectations	-----		2.625***	.243
			(.220)	
School Involvement Index	-----		.066	.009
			(.139)	
Prior Student Characteristics				
Held Back in Grade	-5.596***	-.224	-4.328***	-.173
	(.496)		(.476)	
Prior Behavior Problems	-1.972**	-.064	-1.328*	-.043
	(.607)		(.577)	
Race/Ethnicity				
African American	-5.000***	-.208	-4.921***	-.204
	(.541)		(.527)	
Hispanic	-3.474***	-.120	-3.852***	-.133
	(.551)		(.532)	
Asian/Pacific Islander	-.931	-.019	-1.956**	-.040
	(.719)		(.694)	
American Indian	-4.327*	-.042	-4.599*	-.045
	(2.090)		(1.980)	
Socio-Economic Background				
Family Income	.444***	.118	.320***	.085
	(.086)		(.084)	
Family Size	-.317*	-.045	-.255*	-.036
	(.133)		(.126)	
Parent Education Level	1.938***	.231	1.279***	.152
	(.183)		(.183)	
Intercept	45.965***		43.813***	
Adjusted R^2	.327		.402	

Source: NELS Base Year Survey: 1988 N = 4883, Missing Cases = 2737

*p < .05 **p < .01 ***p < .001 (two-tailed tests)

model indicates that admissions selectivity exerts a significant, positive influence on achievement. Model 2 includes the seven measures of family educational involvement. Family educational involvement explains an additional 7.5% of the variation in achievement over that predicted by school admissions selectivity and student background, alone, in Model 1. More importantly, the inclusion of FEI measures reduces the strength of admissions selectivity by approximately 40%, suggesting that the extent of formal admissions practices in schools, to some degree, results in the admission of disproportionate numbers of students from more educationally supportive family backgrounds, which in turn may be responsible for heightened levels of student achievement in more selective schools of choice. However, the admissions selectivity of the school, while greatly weakened, remains statistically significant in Model 2, indicating that selectivity within the choice sector is positively associated with student achievement above and beyond the effects of family educational involvement.

All but two of the measures of family educational involvement remain statistically significant in Model 2. However, the presence of TV rules, GPA rules, and the frequency of parental help with homework are all negatively associated with achievement. This finding seems counterintuitive. It may be that prior student achievement, unavailable in the NELS:88, may influence these variables. Perhaps low levels of achievement are associated with parents increasing the number of rules in the home in an attempt to encourage greater academic success in their children. This same relationship may explain the negative association between homework help and achievement.

Only two of the seven FEI measures proved to be both statistically significant and positively related to achievement: parental educational expectations and home resources. The level of parents' educational expectations was the strongest predictor of student achievement in the entire model. Both direct parent involvement in school and parent-child discussions about

school were unrelated to achievement after controlling for all other variables in the model, contradicting the findings of previous research (Sui-Chu & Willms, 1996; Yan, 1999).

Discussion

Previous literature has found that private and public schools of choice produce higher student achievement than public non-choice schools after controlling for differences in student background (Archbald, 1995; Chubb & Moe, 1990; Coleman et al., 1982; Gamoran, 1996). Critics of such findings, however, have argued that educational choice tends to stratify students across schools by important student background variables, such as income and parent education level, traditionally associated with student achievement, and that such stratification is likely responsible for achievement differences between sectors (Good & Braden, 2000; Lauder & Hughes, 1999). Results of the present study suggest that educational choice may also stratify students on a number of other important family characteristics. The educationally related practices in which parents engage with their children and with their children's schools, as well as their educational expectations, are implicated in the likelihood that a child will attend a school of choice within the urban context. However, how and under what conditions such family (or perhaps parental) characteristics become important in shaping this likelihood appears to be more complex.

The findings of this study indicate that the decision to enroll one's child in a school of choice (that is, an alternative to the local public school) is strongly related to the degree to which parents are directly involved in their children's schools. That is, the more involved parents are in school activities and/or governance, the more likely they are to have their children attending a school of choice. However, this interpretation is only one of a number of possible explanations for the strong association between parental involvement in the school and the likelihood of "opting out" of the neighborhood public school. Another possible explanation is that schools of choice may be more likely to require parental participation as a pre-condition for student admission. This

explanation would suggest that parents' actions are, in essence, caused by the school. A third possible explanation is that factors unique to schools of choice, themselves, and independent of admissions criteria, somehow induce greater parental participation. Unfortunately, the NELS:88 parent and school surveys do not provide the data required to adequately address these different possibilities. Administrators in formal-admissions (choice) schools were not asked whether student admission was contingent upon certain levels of parental participation, and parents were neither asked the reasons for their participation in the school, nor were they asked about their respective histories of direct involvement in their children's schools.

Rules regarding TV viewing were positively associated with the likelihood of enrollment in a school of choice, as well. However, this variable only became statistically significant after student background measures were included in the analysis. Parents who elect to send their children to schools of choice may generally employ stricter rules regarding TV viewing than those who do not. The fact that such rules, along with rules about maintaining a certain grade point average, are negatively associated with student achievement suggests that the decision to choose alternative schooling may in some cases represent a parental response to their children's prior academic difficulties. Again, the NELS:88 survey does not provide good data on prior achievement, previous levels of parent involvement, or on parents' rationales for enrolling their children in schools of choice and/or schools of higher admissions selectivity.

While direct parental involvement in the school is predictive of the likelihood of attending a school of choice, for those students already in the urban choice sector, this type of parental involvement appears to be wholly unrelated to the likelihood of attending a school of higher admissions selectivity, nor is it related to student achievement. Within the choice sector, the greatest FEI predictor is the level of parental educational expectations. Students whose parents have higher expectations for their educational attainment are significantly more likely to be

enrolled in choice schools of moderate-to-high admissions selectivity. Moreover, parental educational expectations appear to be the strongest predictor of student achievement independent of all other variables included in the present analysis, including family income and parent education levels, two student background measures that have historically been associated with higher levels of student achievement.

Again, however, such an interpretation is subject to disagreement. Since no data on prior student achievement, with the exception of whether the student had ever been held back in grade, is available in the NELS:88, it is possible to make the argument that parental educational expectations might just as likely be a reflection of prior student achievement. It is reasonable to suspect that parents' expectations are at least in part a function of their children's prior schooling outcomes. Thus, it is not possible to tease apart the degree to which prior student achievement may shape both parental educational expectations and present achievement levels. This same logic would apply to the negative relationships found between student achievement and the presence of home rules regarding academic performance, TV viewing, and the frequency with which parents help children with their homework. Clearly, previous performance in school would be expected to have some, and perhaps a strong, influence on such parental attitudes and behaviors.

This study appears to confirm the independent effects of family educational involvement on student achievement. However, contrary to previous findings in the literature, direct parent involvement in school and parent-child home discussions about schooling were not found to be significantly related to achievement. Other FEI measures—TV rules, GPA rules, and homework help—were found to be significantly, but negatively, associated with student achievement. This negative finding is most likely an indication of the reciprocal relationship between students' schooling outcomes and parents' support of their children's education, but this supposition is not

testable using NELS:88 data. Such an examination would require access to data on home environment, parenting practices, direct school involvement, and student outcomes beginning in the early elementary years, if not earlier. The only two FEI measures that appear to exert an independent positive influence on eighth grade student achievement are the level of educationally relevant home resources and parental educational expectations. Parental educational expectations appear to be the strongest predictor of student achievement, after controlling for all other FEI and student background measures, as well as school admissions selectivity. This suggests that the level of parents' expectations for their children's educational attainment, while positively associated, is not wholly determined by parents' own educational levels.

The admissions practices of schools within the choice sector appear to exert an independent positive effect on achievement. This effect is not particularly strong and is reduced substantially when FEI measures are statistically controlled. However, FEI measures and student background cannot wholly account for the positive effect of school admissions selectivity on student achievement. The remaining positive effect of selectivity may be due to any number of factors that distinguish schools of high selectivity from low selectivity, including student composition-related peer effects, possible differences in school resources, and differences in instructional practices and/or organization. Such school-based factors did not constitute the focus of this study and therefore were not examined. However, it is also possible that family educational involvement and prior achievement may more fully explain the small but significant independent influence of school admissions selectivity on student achievement. The NELS:88, as stated earlier, does not provide strong information about students' prior achievement. Prior achievement was one criterion that many choice schools reported utilizing in their admissions practices.

More importantly, there is the question of whether the NELS:88 data set provides adequate information about family educational involvement to properly assess its role in both the likelihood of attending a school of choice and in student achievement. Many of the parent survey questions were very general, eliciting yes/no responses, and few questions were followed up with related questions that would enable a more detailed analysis of the causes, or antecedents, of certain parent behaviors and orientations regarding the education of their children. For instance, the parent survey asked whether parents employed rules in the home about doing homework. More than 90% of parents responded in the affirmative (as such, the variable was excluded from the present analysis). The NELS:88 provides no additional information about what kinds of rules parents employed or when and why they employed them. The parent survey additionally asked parents how often they had been in contact with their children's schools, but did not inquire as to who initiated the contact or the reasons for the contact. Frequent contacts may signify the presence of behavioral or academic difficulties in school rather than parental educational support. Many such variables, potentially useful for the study of family educational involvement, were excluded from this analysis for similar reasons.

Finally, the NELS:88 data does not provide information on the geographic availability of choice schools relative to the residential location, and given the financial resources, of each student in the sample. While choice schools are clearly more prevalent in the urban context as compared with suburban and rural areas, these schools may be geographically positioned in ways that may facilitate the stratification of students between choice and non-choice public schools by different student background characteristics, such as race and income, which are already residentially stratified in many US cities.[4] To the extent that such student background

[4] In the NELS:88 student sample, 32.3% of urban students attended schools of choice as compared with 19.4% of suburban students and only 9.4% or rural students.

characteristics are associated with indicators of family educational involvement, the geographic distribution of choice schools in urban areas, and associated issues of availability and convenience, may represent an important factor in explaining the likelihood that families will enroll their children in schools of choice.

Implications

While it is difficult to derive clear policy implications from the results of this study, the findings do indicate a number of points that should be carefully considered by educational policy-makers before embarking on large-scale educational choice policies in the nation's cities. First, traditional concerns over social stratification appear to be valid. African American students as well as students whose parents have lower levels of education appear to be significantly less likely to enroll in schools of choice, even after controlling for FEI and student background measures. The fact that African Americans who do opt out of their neighborhood schools disproportionately enroll in schools of higher admissions selectivity merits further investigation, but does not make up for their generally low representation within the choice sector as a whole. Second, students whose parents exhibit the highest levels of direct involvement in their schools are most likely to be enrolled in schools of choice, independent of student background. This suggests that school choice policies have the potential to drain the most involved parents, those parents who arguably help to solidify connections between school and community and ensure a greater degree of school accountability, from neighborhood public schools. Lack of parent involvement in urban, neighborhood public schools, especially those serving adolescent students, represents a significant problem, one that appears to be, at least in part, related to the fact that parents who are more involved in their children's schooling are also more likely to have placed their children in schools of choice. Finally, admissions selectivity appears to play a role in stratifying families of students by parental educational expectations, as well as by family income. Since parental educational

expectations are also highly implicated in student achievement, it appears that such parental attitudes, or orientations, regarding their children's education may, at least in part, account for the generally higher levels of academic achievement that have historically been associated with private schools and public schools of choice.

Educational choice has the potential to stratify students by family educational involvement within the urban context, independent of differences in students' racial and socio-economic background. As such, educational reform initiatives based in school choice must adequately consider and make provisions for such potentialities. The present study suggests that attending to issues of racial and social class equity alone will be insufficient. A fair educational choice policy would need to carefully regulate the distribution of students not just by social class, race, and prior achievement, but also by measures of family educational involvement if it is to avoid the concentration of students from more educationally supportive backgrounds in specific schools. While the concentration of students high in family educational involvement may result in higher achievement in schools of choice, it has the potential to further degrade the capacity of neighborhood schools serving those students who are least likely to choose, those coming from families low in educational involvement. Further research is needed to better understand the ways in which inner city "choosing" and "non-choosing" families differ from one another, and how such differences may impact student achievement. Policies that fail to consider the potential for stratification by family educational involvement under conditions of educational choice, rather than helping urban, neighborhood public schools to improve through market-based incentives and pressures, may instead further harm such schools, in effect, transforming them into "schools of last resort."

References

Alexander, K. L., & Pallas, A. M. (1983). Private schools and public policy: New evidence on cognitive achievement in public and private schools. *Sociology of Education, 56*, 170-182.

Archbald, D. (1995). A longitudinal cohort analysis of achievement among elementary-magnet students, neighborhood-school students and transfer students. *Journal of Research and Development in Education, 28*(3), 161-168.

Archbald, D. (1996). SES and demographic predictors of magnet school enrollment. *Journal of Research and Development in Education, 29*(3), 152-162.

Armour, D. L., & Peiser, B. M. (1998). Interdistrict choice in Massachusetts. In P. E. Peterson & B. C. Hassel (Eds.), *Learning from school choice* (pp. 157-186). Washington, DC: Brookings Institution Press.

Astin, A. W. (1992). Educational choice: Its appeal may be illusory. *Sociology of Education, 65*, 255-260.

Blank, R. K., & Archbald, D. A. (1992). Magnet schools and issues of education quality. *The Clearing House, 66*(2), 81-86.

Blank, R. K. (1990). Educational effects of magnet high schools. In W. H. Clune & J. F. Witte (Eds.), *Choice and control in American education Volume 2: The practice of choice, decentralization and school restructuring* (pp. 77-109). London: The Falmer Press.

Bohrnstedt, G. W., & Knoke, D. (1994). *Statistics for social data analysis* (3rd Ed.). Itasca, IL: F. E. Peacock Publishers.

Bowers, R. S. (2000). A pedagogy of success: Meeting the challenges of urban middle schools. *The Clearing House, 73*(4), 235-238.

Bradley, A., & Manzo, K. K. (2000, Oct. 4). The weak link. *Education Week, 20*(5), 3-8.

Brown, F. (1997). Privatization and urban education. *Education and Urban Society, 29*(2), 204-216.

Bryk, A. S., Lee, V. E., & Holland, P. B. (1993). *Catholic schools and the common good.* Cambridge, MA: Harvard University Press.

Chubb, J. E., & Moe, T. (1990). *Politics, markets, and America's schools.* Washington, DC: The Brookings Institute.

Clark, R. (1983). *Family life and school achievement: Why poor black children succeed or fail.* Chicago: The University of Chicago Press.

Coleman, J. S. (1988). Social capital and human capital. *American Journal of Sociology, 94*(supplement), S95-S120.

Coleman, J. S. (1992). Some points on choice in education. *Sociology of Education, 65*(4), 260-262.

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., & York, R. L. (1966). *Equality of educational opportunity.* Washington, DC: US Government Printing Office.

Coleman, J. S., Hoffer, T., & Kilgore, S. (1982). *High school achievement: Public, Catholic, and private compared.* New York: Basic Books.

Desimone, L. (1999). Linking parent involvement with student achievement: Do race and income matter. *The Journal of Educational Research, 93*(1), 11-30.

Eccles, J. S., & Harold, R. D. (1993). Parent-school involvement during the early adolescent years. *Teachers College Record, 94*(3), 569-587.

Fejgin, N. (1995). Factors contributing to the academic excellence of American Jewish and Asian students. *Sociology of Education, 68*, 18-30.

Fiske, E. B., & Ladd, H. F. (2000). *When schools compete: A cautionary tale*. Washington, DC: Brooking Institution Press.

Friedman, M. (1955). The role of government in education. In R. A. Solo (Ed.), *Economics and the public interest* (pp. 123-144). New Brunswick, NJ: Rutgers University Press.

Friedman, M. (1997). Public schools: Make them private. *Education Economics, 5*(3), 341-344.

Furstenberg, F. F., Jr., Cook, T. D., Eccles, J., Elder, G. H., Jr., & Sameroff, A. (1999). *Managing to make it: Urban families and adolescent success*. Chicago: The University of Chicago Press.

Gamoran, A. (1992). Social factors in education. In M. C. Allan (Ed.), *Encyclopedia of Educational Research* (6th ed.) [pp. 1222-1229]. New York: Macmillan.

Gamoran, A. (1996). Student achievement in public magnet, public comprehensive, and private city high schools. *Educational Evaluation and Policy Analysis, 18*(1), 1-18.

Good, T. L., & Braden, J. S. (2000). *The great school debate: Choice, vouchers, and charters*. Mahwah, NJ: Lawrence Erlbaum Associates.

Gutman, L. M., & McLoyd, V. C. (2000). Parents' management of their children's education within the home, at school, and in the community: An examination of African-American families living in poverty. *The Urban Review, 32*(1), 1-24.

Hanushek, E. A. (1997). Applying performance incentives to schools for disadvantaged populations. *Education and Urban Society, 29*(3), 296-316.

Hassel, B. C. (1998). The case for charter schools. In P. E. Peterson & B. C. Hassel (Eds.), *Learning from school choice* (pp. 33-51). Washington, DC: Brookings Institution Press.

Hill, P. T. (1997). A public education system for the new metropolis. *Education and Urban Society, 29*(4), 490-508.

Howe, K., Eisenhart, M., & Betebenner, D. (2001). School choice crucible: A case study of Boulder Valley. *Phi Delta Kappan, 83*(2), 137-146.

Jackson, A. W., & Davis, G. A. (2000). *Turning points 2000: Educating adolescents in the 21st century*. New York: Teachers College Press and NMSA.

Lauder, H, & Hughes, D. (1999). *Trading in futures: Why markets in education don't work*. Philadelphia: Open University Press.

Martinez, V. J., Godwin, R. K., Kemerer, F. R., & Perna, L. (1995). The consequences of school choice: Who leaves and who stays in the inner city. *Social Science Quarterly, 76*(3), 485-501.

McPartland, J. M., & McDill, E. L. (1982). Control and differentiation in the structure of American education. *Sociology of Education, 55*, 77-88.

Moore, D. R., & Davenport, S. (1990). School choice: The new and improved sorting machine. In W. L. Boyd & H. J. Walberg (Eds.), *Choice in education: Potential and problems* (pp. 187-223). Berkeley, CA: McCutchan.

Murphy, J. (1991). *Restructuring schools: Capturing and assessing the phenomena*. New York: Teachers College Press.

National Center for Education Statistics. (1989). *National Education Longitudinal Study of 1988: Base year parent component data file user's manual* (NCES No. 90-466). Washington, DC: US Department of Education.

National Center for Education Statistics. (1996, July). *Urban schools: The challenge of location and poverty* (NCES No. 96-184r). Washington, DC: US Department of Education, Office of Educational Research and Improvement.

Olson, L., & Jerald, C. D. (1998, January 8). Barriers to success. *Education Week, 17*(17), 9-23.

Sui-Chu, E. H., & Willms, J. D. (1996). Effects of parental involvement on eighth-grade achievement. *Sociology of Education, 69*, 126-141.

Singh, K., Bickley, P. G., Keith, T. Z., Keith, P. B., Trivette, P., & Anderson, E. (1995). The effects of four components of parental involvement on eighth-grade student achievement: Structural analysis of NELS-88 data. *School Psychology Review, 24*, 299-317.

Teachman, J. D. (1987). Family background, educational resources, and educational achievement. *American Sociological Review, 52*, 548-557.

United States Department of Education. (1998, June). *12th grade results of third international math and science study (TIMSS)* [on-line]. Available: http://www.ed.gov/inits/TIMSS/index.html.

Walsh, A. (1987). Teaching understanding and interpretation of logit regression. *Teaching Sociology, 15*, 178-183.

Wells, A. S., & Crain, R. L. (1997). *Stepping over the color line: African-American students in white suburban schools*. New Haven, CT: Yale University Press.

Witte, J. F. (2000). *The market approach to education: An analysis of America's first voucher program*. Princeton, NJ: Princeton University Press.

Yan, W. (1999). Successful African American students: The role of parental involvement. *The Journal of Negro Education, 68*,(1), 5-22.

Appendix 1. Concept Variables and Corresponding NELS:88 Survey Questions

Concept	Variable Name	NELS 1988 Questions
Family Educational Investment	Parental Educational Expectations	byp76 - How far in school the parent expects child to go
	Index of Home Educational Resources	bys35a – Student's family has a special place for study bys35b - Student's family has a daily newspaper bys35c – Student's family has a regularly received magazine bys35d – Student's family has an encyclopedia bys35e – Student's family has an atlas bys35f – Student's family has a dictionary bys35g – Student's family has a typewriter bys35h – Student's family has a computer bys35m – Student's family has more than 50 books bys35o - Student's family has a pocket calculator
	Index of TV Rules	byp64c – Family rule about hours of TV watching byp64d – Family rule about hours of TV watching on schooldays
	GPA Rules	byp65a – Family rule about maintaining grade average
	Homework Help	byp69 – How often helps child with homework
	Index of Parent-Child Discussions about School	byp66 – How often talks to child about school experiences byp67 – How often talks to child about high school plans byp68 – How often talks to child about post high school plans
	Index of Parent-School Involvement	byp59a – Belong to parent-teacher organization byp59b – Attend parent-teacher organization meetings byp59c – Take part in parent-teacher organization activities byp59d – Act as a volunteer at the school

Appendix 1 (continued)

Concept	Variable Name	NELS 1988 Questions
School Selectivity	Index of School Selectivity (for formal admissions schools only)	bysc26 - No. of students who applied for admission bysc27 - No. of students accepted bysc28a - Standardized test used in admission bysc28b - Written admission test used bysc28c - Personal interview with parent used bysc28d - Personal interview with student used bysc28e - Former principal's recommendation used bysc28f - Former teacher's recommendation used bysc28g - Friend's recommendation used bysc28h - Strong academic record used
Prior Student Characteristics	Held Back in Grade	byp44 - 8th grader ever held back in school
	Prior Behavior Problems	byp50 - 8th grader ever had behavior problems in school
Race/Ethnicity	Racial/Ethnic Background	Constructed by NELS from the student response variable **bys31a** – Respondent's race/ethnic background:[a] White (non-Hispanic) Black (non-Hispanic) Hispanic Asian-Pacific Islander American Indian Other

Appendix 1 (continued)

Concept	Variable Name	NELS 1988 Questions
Socio-Economic Background	Family Income	byfaminc – Total family income (NELS-constructed from parent survey question byp80)
	Family Size	byfamsiz – Student's estimated family size (NELS-constructed composite of parent and student survey)
	Parent Education Level	bypared - Level of education attained by either of the parents (NELS-constructed composite of parent and/or student survey responses)

[a] Due to some confusion regarding racial categories, NELS recoded a small portion of the parent responses (NCES, 1989, Appendix D, p. 5). Also, the "other" category was omitted from analysis due to very low numbers.

Appendix 2. Index Construction from NELS:88 Variables with Correpsonding Cronbach's Alpha levels

Index Name:	Variables	Corresponds to NELS:88 Variable	Alpha (weighted)
School Selectivity Index Nine administrator responses (formal admissions schools only—schools that responded "yes" on NELS variable bysc25) regarding admissions policies	1. Relative acceptance rate (ordinally coded admissions divided by ordinally coded total number of applications)	bysc27 / bysc26	**.86**
	<u>Degree to which the following are used:</u>		
	2. Standardized test scores	bysc28a	
	3. Written admission test	bysc28b	
	4. Formal interview with parent	bysc28c	
	5. Formal interview with student	bysc28d	
	6. Former principal's recommendation	bysc28e	
	7. Former teacher's recommendation	bysc28f	
	8. Friend's recommendation	bysc28g	
	9. Strong academic record	bysc28h	
Parent-School Involvement Index (Four yes/no parent responses regarding their involvement in the child's school)	1. Belong to parent-teacher org.	byp59a	**.74**
	2. Attend parent-teacher org. meetings	byp59b	
	3. Take part in parent-teacher org. activities	byp59c	
	4. Volunteer at the school	byp59d	
Home Resource Index (Nine yes/no student responses regarding the presence of the following items in the home)	1. Place at home to study	bys35a	**.53**
	2. Receives a daily newspaper	bys35b	
	3. Receives a magazine regularly	bys35c	
	4. Has an encyclopedia	bys35d	
	5. Has an atlas	bys35e	
	6. Has a dictionary	bys35f	
	7. Has a typewriter	bys35g	
	8. Has a computer	bys35h	
	9. Has a pocket calculator	bys35o	
	10. Has more than 50 books	bys35m	

Appendix 2 (continued)

Index Name:	Variables	Corresponds to NELS:88 Variable	Alpha (weighted)
TV Rules Index	1. Number of hours child is permitted to watch TV 2. Number of hours child is permitted to watch TV on school days	byp64c byp64d	.67
Index of Parent-Child Discussions about School	1. How often do you talk to child about school experiences 2. How often do you talk to child about high school plans 3. How often do you talk to child about post high school plans	byp66 byp67 byp68	.77

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

ERIC Educational Resources Information Center

REPRODUCTION RELEASE

(Specific Document)

AERA
UD035726

I. DOCUMENT IDENTIFICATION:

Title: Self-Selection and Student Achievement in Urban Schools: Examining the Role of Family Educational Involvement

Author(s): Dan Weinles

Corporate Source:

Publication Date:

II. REPRODUCTION RELEASE:

In order to disseminate as widely as possible timely and significant materials of interest to the educational community, documents announced in the monthly abstract journal of the ERIC system, *Resources in Education* (RIE), are usually made available to users in microfiche, reproduced paper copy, and electronic media, and sold through the ERIC Document Reproduction Service (EDRS). Credit is given to the source of each document, and, if reproduction release is granted, one of the following notices is affixed to the document.

If permission is granted to reproduce and disseminate the identified document, please CHECK ONE of the following three options and sign at the bottom of the page.

The sample sticker shown below will be affixed to all Level 1 documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

1

Level 1

☐

Check here for Level 1 release, permitting reproduction and dissemination in microfiche or other ERIC archival media (e.g., electronic) and paper copy.

The sample sticker shown below will be affixed to all Level 2A documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE, AND IN ELECTRONIC MEDIA FOR ERIC COLLECTION SUBSCRIBERS ONLY, HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2A

Level 2A

☒

Check here for Level 2A release, permitting reproduction and dissemination in microfiche and in electronic media for ERIC archival collection subscribers only

The sample sticker shown below will be affixed to all Level 2B documents

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL IN MICROFICHE ONLY HAS BEEN GRANTED BY

Sample

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

2B

Level 2B

☐

Check here for Level 2B release, permitting reproduction and dissemination in microfiche only

Documents will be processed as indicated provided reproduction quality permits.
If permission to reproduce is granted, but no box is checked, documents will be processed at Level 1.

I hereby grant to the Educational Resources Information Center (ERIC) nonexclusive permission to reproduce and disseminate this document as indicated above. Reproduction from the ERIC microfiche or electronic media by persons other than ERIC employees and its system contractors requires permission from the copyright holder. Exception is made for non-profit reproduction by libraries and other service agencies to satisfy information needs of educators in response to discrete inquiries.

Sign here, please

Signature: Dan Weinles

Printed Name/Position/Title: Dan Weinles, Doctoral Candidate

Organization/Address: Temple University

Address: 700-B Wolcott Dr., Phila. PA 19118

Telephone: (215) 248-0305

FAX: -

E-Mail Address: dweinles@temple.edu

Date: 3/29/03

(Over)

III. DOCUMENT AVAILABILITY INFORMATION (FROM NON-ERIC SOURCE):

If permission to reproduce is not granted to ERIC, *or*, if you wish ERIC to cite the availability of the document from another source, please provide the following information regarding the availability of the document. (ERIC will not announce a document unless it is publicly available, and a dependable source can be specified. Contributors should also be aware that ERIC selection criteria are significantly more stringent for documents that cannot be made available through EDRS.)

Publisher/Distributor:
Address:
Price:

IV. REFERRAL OF ERIC TO COPYRIGHT/REPRODUCTION RIGHTS HOLDER:

If the right to grant this reproduction release is held by someone other than the addressee, please provide the appropriate name and address:

Name:
Address:

V. WHERE TO SEND THIS FORM:

Send this form to the following ERIC Clearinghouse:

ERIC CLEARINGHOUSE ON ASSESSMENT AND EVALUATION
UNIVERSITY OF MARYLAND
1129 SHRIVER LAB
COLLEGE PARK, MD 20742-5701
ATTN: ACQUISITIONS

However, if solicited by the ERIC Facility, or if making an unsolicited contribution to ERIC, return this form (and the document being contributed) to:

ERIC Processing and Reference Facility
4483-A Forbes Boulevard
Lanham, Maryland 20706

Telephone: 301-552-4200
Toll Free: 800-799-3742
FAX: 301-552-4700
e-mail: ericfac@inet.ed.gov
WWW: http://ericfacility.org

EFF-088 (Rev. 2/2001)